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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/471,435 | 12/23/1999 | MICHAEL J. MCTAGUE | INTL-0296-US | 7390 |

7590 01/09/2004

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HOUSTON, TX 77024

EXAMINER

TRAN, KHANH C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2631

14

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/471,435

Applicant(s)

MCTAGUE ET AL.

Examiner

Khanh Tran

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-30 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,14-16 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 2,8-13 and 17-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The Reply to Paper No. 12 filed on 10/07/2003 has been entered. Claims 1-30 are pending in this Office action.

Response to Arguments

2. Applicant's arguments, see pages 2-3 of the Reply to Paper No. 12, filed on 10/07/2003, with respect to the rejection(s) of claim(s) 1, 3-7, 14-17, 20-22 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Gockler et al. U.S. Patent 6,185,202 B1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-7, 14-16, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gockler et al. U.S. Patent 6,185,202 B1.

Regarding claim 1, Gockler et al. discloses in figure 2 a modem including an analog/digital converter ADU for converting a received analog data signal to a digital

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output signal at a relatively higher data rate as well known in the art, a decimator DE, corresponding to a device as claimed, coupled to the ADU with a fixed decimation factor 2 for obviously reducing the relatively higher data rate from the ADU to a lower data rate, a frequency splitter FWE and a downstream switch SWE for switching between one of two receive-signal paths, synchronization circuits SYNC1 and SYNC2 located in the two received paths, decoder DEC1 DEC2 located at the end of each receive-signal paths, and a multiplexer MUX for multiplexing the lower data rate through either one of synchronization circuits SYNC1 SYNC2. The lower data rate and control information are inherently multiplexed by the MUX. According to Gockler et al. teachings, signal transmission/reception takes place via only one of the two transmitting and receiving channels that are shown in figure 2. Gockler et al., however, does not specify the modem comprising an integrated circuit as claimed. Nevertheless, it would have been obvious for one of ordinary skill in the art at the time of invention to implement the transmission and receive-signal paths in the modem onto an integrated circuit because modem components are always implemented on integrated circuit as it has been well known in the art.

Regarding claims 3 and 15, figure 2 shows the decimator DE with a fixed decimation factor 2, coupled to the analog/digital converter ADU.

Regarding claim 4, figure 2 further shows an analog anti-aliasing filter AAFE coupled to the ADU in turn coupled to the decimator DE in turn coupled to the MUX as claimed in the instant application.

Regarding claim 5, figure 2 further shows a demultiplexer DMUX coupled to digital interpolations IF1, IF2 with a variable interpolation factor through encoders ENC1 ENC2, a digital/analog converter DAU coupled to the IF1 and IF2 through a frequency splitter FWS. As well known in the art, the interpolation filter increases data rate of data received by an interpolation factor.

Regarding claim 6, figure 2 shows digital interpolations IF1, IF2 on both transmitted-signal paths with a variable interpolation factor coupled to the demultiplexer DMUX through encoders ENC1 ENC2.

Regarding claim 7, figure 2 shows both transmitted-signal paths and receive-signal paths.

Regarding claim 14, since claim 14 has similar scope with claim 1, the rejection argument of claim 1 also applies to claim 14. Furthermore, the multiplexing process serializes the data and the data is transmitted to another integrated circuit.

Regarding claim 16, as recited in claim 1 and 14, the data and control information are inherently multiplexed by the multiplexer MUX and the multiplexing process serialized the data as claimed in the instant application.

Regarding claim 20, figure 2 shows a demultiplexer DMUX receives digital data and the data rate is increased through either one of digital interpolations IF1 and IF2.

Regarding claim 21, as recited in claim 20, the digital interpolations IF1 and IF2 with variable interpolation factor increases the data rate.

Regarding claim 22, as shown in figure 2, the interpolated data is later on converted to analog format signal through the digital/analog converter (DAU).

Allowable Subject Matter

4. Claims 2, 8-13, 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 23-30 are allowed.

Regarding claim 23, said claim is directed to an asymmetric digital subscriber. The prior art of record could not show the claimed modem comprising a first integrated circuit including an A/D converter, a device to reduce data rate, and a serializer; and a second integrated circuit including a deserializer.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT


KHAI TRAN
PATENT EXAMINER